



# What is

**TODD-AO\*** is the perfected film process that gives you—the audience—a sense of participation in the action, the feeling of presence in every scene.

**TODD-AO** is a practical scientific system developed by American Optical Company engineers under the direction of Dr. Brian O'Brien, to bring into being an idea envisioned by Michael Todd.

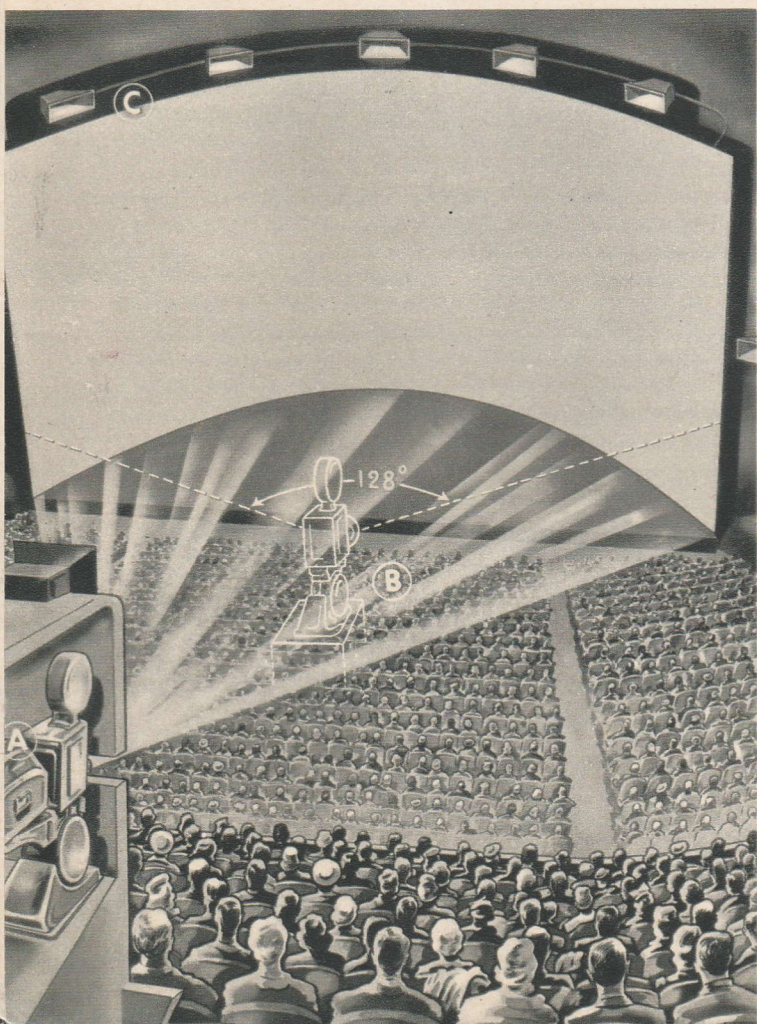
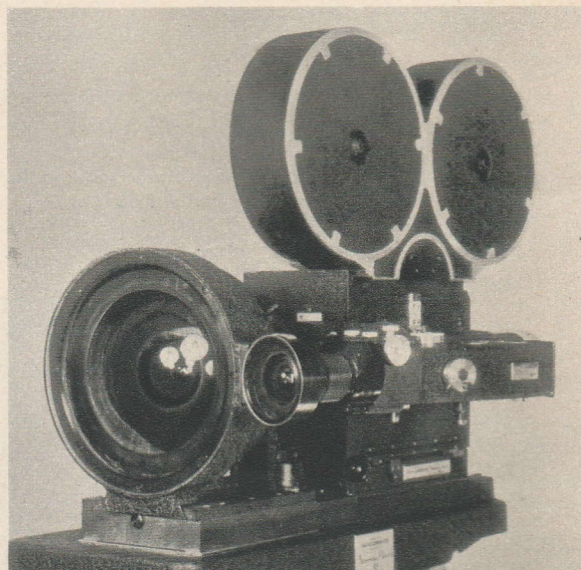
The goal was to develop "a motion picture system that would photograph action in very wide angle . . . with one camera . . . on one strip of film . . . to be projected from a single machine . . . on a very large screen . . . with a quality so perfect that the audience will be part of the action, not just passive spectators."

Dr. O'Brien was the perfect choice for directing such a program. During World War II, he and his group had developed aids to night combat that had won him the Presidential Medal for Merit. After the war, he had developed cameras to photo-

graph atomic bomb explosions with speeds of 10,000,000 pictures per second.

Now a completely new system in the photography and projection of motion pictures was under way! First, the screen. To create the illusion of presence a very deeply curved screen was necessary. Dr. O'Brien devised a screen which he describes as "a great, curved, observation window to the outside world."

Next, the film. The old, standard 35mm film was not adequate. It could not illuminate every part of the large screen. Its pic-



- A. **TODD-AO "all-purpose" projector** above and behind the balcony. So versatile, it can project the film of eight different motion picture systems!
- B. The "phantom" projector—shown where it would have to be for full 128° projection with conventional optics.
- C. Five high-fidelity loud speakers for the new, **TODD-AO**, Orthosonic sound system. Recorded sound, from 96 separate sources on 6 magnetic sound tracks is reproduced on six sound channels.

\***TODD-AO** is the trade-mark of The **TODD-AO** Corporation, applied to its new wide-angle motion picture system.



# TODD-AO\*?

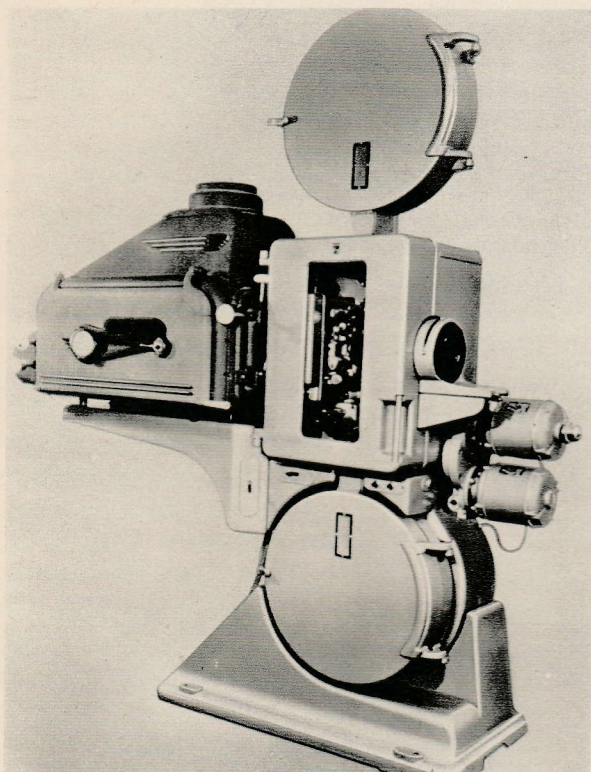


tures were not sharp and clear from every part of the theatre. So a 65mm negative had to be created.

Every existing lens type was tried and rejected. Their use meant losing picture quality. An entirely new system of lenses was required.

Mr. Robert Hopkins at the University of Rochester developed the basic wide-angle camera lens. The 128° covered by this lens "sees" much as you do. But, so that this camera might "see" everything as you do, a whole series of new lenses was necessary. They range from the 128° "Bug-Eye" through 64°, 48° and 37° lenses.

Once the lenses had been developed, the design of the camera followed naturally. But, to design a projector that could reproduce the perfection of the photography onto the screen was a separate problem.



The new projector had to provide for film now 70mm wide, the extra 5mm carrying a six channel, high-fidelity, Orthosonic sound track developed by Fred S. Hynes of The **TODD-AO** Corporation (formerly of Westrex).

The **TODD-AO** "all-purpose" projector—built by the N. V. Philips' Gloeilampenfabrieken of Eindhoven, Netherlands—is only slightly larger than a 35mm machine. Yet, it will project film from any of the eight motion picture systems in use today!

Angle of projection was the final problem and a new, complex system of optics was invented to solve it. Any standard method distorted the picture so much as to be unusable. The final result? In Dr. O'Brien's words: "It is as though the picture were shown from a 'phantom' projector located ten or twenty feet over the heads of the audience in the forward orchestra seats of the theatre."

**TODD-AO** film, plus the **TODD-AO** camera, plus the **TODD-AO** "all-purpose" projector, plus **TODD-AO** Orthosonic sound, and the great, arced **TODD-AO** screen equal clarity of perspective, delineation, and color reproduction. But, most important, with **TODD-AO**, audience participation now has its fullest expression.

TODD-AO 70 mm

Standard 35 mm.

